

Notice of Allowability

Application No.

09/992,080

Examiner

Brian T. Pendleton

Applicant(s)

TAKAGI ET AL.

Art Unit

2644

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to new application on 11/19/01.
2. ☒ The allowed claim(s) is/are 1-17.
3. ☒ The drawings filed on 19 November 2001 are accepted by the Examiner.
4. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☒ All b) ☐ Some* c) ☐ None of the:
 1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
 6. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☒ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☒ Information Disclosure Statements (PTO-1449 or PTO/SB/08),
Paper No./Mail Date 4/15/04
4. ☐ Examiner's Comment Regarding Requirement for Deposit
of Biological Material
5. ☐ Notice of Informal Patent Application (PTO-152)
6. ☐ Interview Summary (PTO-413),
Paper No./Mail Date _____
7. ☐ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____

[Handwritten signature]

DETAILED ACTION

Allowable Subject Matter

Claims 1-17 are allowed.

The following is an examiner's statement of reasons for allowance:

The Admitted Prior Art (APA) discussed in the Background of the Invention section and illustrated in figure 20 comprises a sound signal dividing means, first sound signal sections analyzing means, second sound signal sections analyzing means, sampling rate selecting means, sound signal sampling means, frequency components calculating means, quantization bit numbers allocating means, first frequency components compression means, second frequency components compression means, frequency components quantizing means and frequency components encoding means. However, the APA does not disclose compression level calculating means (or step) and compression level judging means (or step), as required by independent claims 1, 2, 10 and 11. In addition, the APA does not disclose energy ratio calculating means (or step) and energy ratio judging means (or step), as required by independent claims 3, 4, 12 and 13. Lastly, the APA does not disclose compression level calculating means (or step), threshold energy value selecting means (or step), and energy ratio calculating means (or step), as claimed by independent claims 5, 6, 14 or 15.

The closest prior art patent references are Taniguchi et al, US Patent 6,456,968, Johnston, US Patent 5,481,614, Kitabatake, US Patent 5,459,474, and Miyakawa et al, US Patent 5,684,922. Taniguchi discloses a subband encoding system comprising a band splitting section (sound signal dividing means), a bit allocation producing section, and a requantizing section. Taniguchi discloses a scale factor producing section that detects a maximum amplitude level of

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the subband signals and uses this factor to determine bit allocation information. Taniguchi does not disclose nor suggest the compression level calculating means, energy ratio judging means or threshold energy value selecting means as required by the inventive claims. Johnston discloses a method and apparatus for coding audio signals comprising analysis filter bank 202, perceptual model processor 204 and quantizer/rate loop processor 206. The reference does not disclose compression level calculating means or energy ratio calculating means. Kitabatake discloses a system comprising a frequency dividing unit 11, SMR calculating unit 15, quantization bit number allocation unit 17 and quantizing unit 13. The SMR (signal to mask ratio) calculating unit 15 is used in quantization bit number allocation. Kitabatake does not disclose a compression level calculating means or energy ratio calculating means whereby the energy ratio is calculated for each of two sound signal sections. Similarly, Miyakawa discloses an encoding apparatus comprising SMR calculation unit 33, along with power calculating unit 31, masking threshold value calculating 32 and MNR (masking threshold value-to-noise ratio) calculating unit 34. The reference does not disclose compression level calculating means, as required by claims 1, 2, 5, 6, 10, 11, 14 and 15, and energy ratio calculating means whereby the energy ratio is calculated for each of two sound signal sections, as required by claims 3, 4, 12 and 13.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Brian T. Pendleton whose telephone number is (571) 272-7527. The examiner can normally be reached on M-F 7-4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Sinh Tran can be reached on (571) 272-7564. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Brian T. Pendleton
Examiner
Art Unit 2644



BRIAN PENDLETON
PATENT EXAMINER

btp